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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/668,664	09/22/2000	Paul Petrus	015685.P068	2261

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EXAMINER

SMITH, SHEILA B

ART UNIT

PAPER NUMBER

2685

DATE MAILED: 07/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

TR

Office Action Summary

Application No.

09/668,664

Applicant(s)

PETRUS, PAUL

Examiner

Sheila B. Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

1. Claims 1-6,8,17,19-22,24, rejected under 35 U.S.C. 102(e) as being anticipated by Youssefmir et al. (U. S. Patent Number 6,141,567).

Regarding claims 1,2,4-6,8 Youssefmir et al. discloses essentially all the claimed invention as set fourth in the instant application, further Youssefmir et al. discloses apparatus and method for beamforming in a changing-interference environment. In addition Youssefmir et al. discloses a method of characterizing an environment comprising receiving uplink signals, estimating uplink spatial signatures characterizing the environment based on uplink signatures as disclosed in column 2 lines 1-16.

Regarding claims 3,17,19,21,20,22,24 Youssefmir et al. discloses everything claimed, as applied above (see claim 1) additionally, Youssefmir et al. discloses identifying the cross

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correlation between the antenna signal and the reference signal as disclosed in column 14

lines 38-45 reads on selecting a clutter estimation if the correlation between the estimated uplink spatial signature.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7, 9, 25-42 rejected under 35 U.S.C. 103(a) as being obvious over Youssefmir et al. in view of Barratt et al. (U. S. Patent Number 6,185,440).

Regarding claims 7, 9, 25-42 Youssefmir et al. discloses everything claimed, as applied above (see claim 1) additionally, Youssefmir et al. discloses When the average measure between each representative weight vector and all the weight vectors combined with that representative weight vector is less than some threshold, column 14 lines 38-45 reads on selecting a clutter estimation if the correlation between the estimated uplink spatial signature. However Youssefmir et al. fail to disclose representative weight vectors achieving this are the final representative weight vectors used as the representative weight vectors for sequential transmission of the downlink signal.

In the same field of invention Barratt et al. discloses method for sequentially transmitting a downlink signal from a communication station the has an antenna array to achieve an omnidirectional radiation Barratt et al. discloses the representative weight vectors achieving this

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are the final representative weight vectors used as the representative weight vectors for sequential transmission of the downlink signal as disclosed in column 7 lines 30, which reads on calculating pairwise correlations.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Youssefmir et al. with the representative weight vectors achieving this are the final representative weight vectors used as the representative weight vectors for sequential transmission of the downlink signal as taught by Barratt et al. for the purpose of extending the range of coverage.

Regarding claims 10-12, Youssefmir et al. discloses everything claimed, as applied above (see claim 1) additionally, Youssefmir et al. discloses performing Eigen values as disclosed in column 15 lines 15-20.

3. Claims 13-15, 23 rejected under 35 U.S.C. 103(a) as being obvious over Youssefmir et al. in view of Barratt et al. and further in view of Karlsson et al.(U. S. Patent Number 6,167,039).

Regarding claims 13-15, 23, Youssefmir et al. In view of Barratt et al. discloses essentially all the claimed invention as set fourth in the instant application, further Youssefmir et al. in view of Barratt et al. discloses apparatus and method for beamforming in a changing-interference environment. In addition Youssefmir et al. in view of Barratt et al. discloses a method of characterizing an environment comprising receiving uplink signals, calculating signal

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to noise ratio in response to uplink as disclosed in column 2 lines 1-16. However Youssefmir et al. fail to disclose bit error rate.

In the same field of invention Barratt et al. discloses method for sequentially transmitting a downlink signal from a communication station the has an antenna array to achieve an omnidirectional radiation Barratt et al. discloses the representative weight vectors achieving this are the final representative weight vectors used as the representative weight vectors for sequential transmission of the downlink signal as disclosed in column 7 lines 30, which reads on calculating pairwise correlations.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Youssefmir et al. with the representative weight vectors achieving this are the final representative weight vectors used as the representative weight vectors for sequential transmission of the downlink signal as taught by Barratt et al. for the purpose of extending the range of coverage.

Citation of Pertinent Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Golemon et al. (U. S. Patent Number 6,018,643) discloses apparatus and method for adaptively forming an antenna beam pattern in wireless communication system;

Avido et al. (U. S. Patent Number 5,914,946) discloses TDM-based fixed wireless loop system,

Whinnett (U. S. Patent Number 5,999, 826) discloses devices for transmitter path weights and methods therefore;

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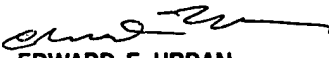
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheila B. Smith whose telephone number is (703)305-0104. The examiner can normally be reached on Monday-Thursday 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-6306 for regular communications and (703)308-6296 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

S. Smith
June 28, 2002


EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600